

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
15 December 2005 (15.12.2005)

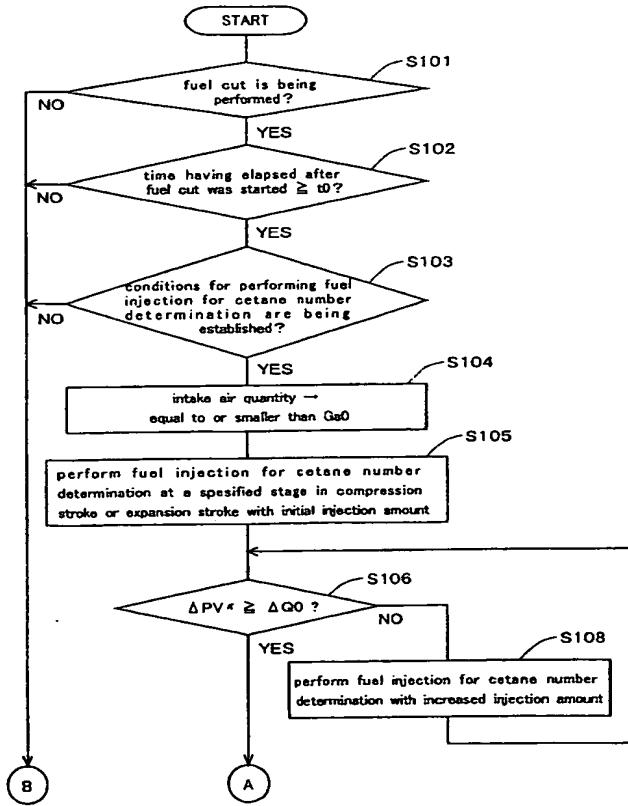
PCT

(10) International Publication Number
WO 2005/119034 A1

- (51) International Patent Classification⁷: F02D 41/00, G01N 33/28
- (21) International Application Number: PCT/JP2005/010447
- (22) International Filing Date: 1 June 2005 (01.06.2005)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 2004-163299 1 June 2004 (01.06.2004) JP
- (71) Applicant (for all designated States except US): TOYOTA JIDOSHA KABUSHIKI KAISHA [JP/JP]; 1, Toyota-cho, Toyota-shi, Aichi, 4718571 (JP).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): AOYAMA, Taro
- [JP/JP]; c/o TOYOTA JIDOSHA KABUSHIKI KAISHA, 1, Toyota-cho, Toyota-shi, Aichi, 4718571 (JP).
- (74) Agents: KAWAGUCHI, Yoshiyuki et al.; Acropolis 21 Building, 6th floor, 4-10, Higashi Nihonbashi 3-chome, Chuo-ku, Tokyo, 1030004 (JP).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

{Continued on next page}

(54) Title: METHOD OF DETERMINING CETANE NUMBER OF FUEL IN INTERNAL COMBUSTION ENGINE



(57) Abstract: An object of the present invention is to provide a technology that enables to determine the cetane number of fuel in a state in which it is actually used for running an internal combustion engine with an improved degree of accuracy. A fuel injection for cetane number determination in which a specified quantity of fuel is injected into a combustion chamber during a compression stroke or expansion stroke, is performed (S105) while the internal combustion engine is in a fuel cut state (S101). The cetane number of the fuel is determined based on the time period from a specified time to a time of ignition at which the fuel injected by the fuel injection for cetane number determination is ignited.



European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— *with international search report*